

**IOWA DEPARTMENT OF NATURAL RESOURCES
WATER SUPPLY SECTION
CONSTRUCTION PERMIT APPLICATION**

SCHEDULE-13a, Chemical Addition

Date Prepared	Project Identity
Date Revised	

1. Design Data:
 - a. Chemical Name (i.e. Chlorine, Ortho-phosphate, Caustic soda) _____
 - b. State (Granular, Liquid, etc.) _____
 - c. Purity: _____ % Density: _____ lb./gallons
 - d. Feed Rate: _____ mg/l;
 - e. Manufacturer and Model of the Chemical Feeder: _____
 - f. Minimum to Maximum Feed Rate of Feeder: _____ lb./day to _____ lb./day
 - g. Feeder Accuracy: _____ % Max. Discharge Pressure: _____ psi
 - h. Type and capacity of **Scale** if provided: _____
 - i. Type and Capacity of **Day Tank** if Provided: _____
 - j. Type and Capacity of **Bulk Tank** if Provided: _____

2. For Chlorine addition, what is the raw water concentration of:
 - a. Iron _____ mg/L
 - b. Manganese _____ mg/L
 - c. H₂S _____ mg/L
 - d. Ammonia _____ mg/L

2. Average Day water demand: _____ gallons per day.
 Peak Day water demand: _____ gallons per day.
 What is the rate of flow of the **water** at the chemical injection location? _____ gallons per minute.
(Note: This is usually equal to the capacity of the well pump(s) or high service pump(s) discharging into that line.)

3. Describe the method of determining the liquid level in day and bulk storage tanks: _____ spec. page no. _____

4. Briefly describe the method of conveying chemicals to and from bulk storage: N/A ☐
 _____ spec. page no. _____

5. Describe the control system for each feeder (including on/off, rate adjustment, etc.): _____ spec. page no. _____

6. How is antisiphon and cross connection control provided for each feeder (water makeup, chemical feed lines, drains & overflows)?
 _____ spec. page no. _____

7. Are separate chemical transfer and feed lines provided for each chemical? Yes ☐ No ☐
8. Are chemical storage tanks located above grade? Yes ☐ No ☐
9. Does each tank containing chemical solutions have a valved drain? Yes ☐ No ☐
10. Has a curbed catch basin been provided around acid storage facilities? Yes ☐ No ☐ N/A ☐
11. Are all acid storage tanks vented to the outside atmosphere? Yes ☐ No ☐ N/A ☐

12. If carbon dioxide is being fed: N/A ☐
 - a. Is carbon dioxide being generated at the treatment plant site? Yes ☐ No ☐ ; **If Yes =>** what precautions have been taken to prevent the possibility of carbon monoxide entering the treatment plant from recarbonation components?

 - b. Maximum CO₂ feed rate: _____ mg/l
 - c. Design detention time in Mixing Basin: _____ minutes; in Reaction Basin: _____ minutes.
 - d. Is a baffle provided separating the mixing basin from the reaction basin? Yes ☐ No ☐